

17/5/13.

# T.E (comp) V Microprocessor

P3-upq-Feb.-13KL-107 A4 E

Con. 6953-13.

GS-8871

(3 Hours)

[Total Marks : 100]

N.B. :(i) Question No. 1 is **compulsory**.

(2) Solve any **four** questions out of the remaining **six** questions.

1. (a) Explain the memory segmentation in Intel 8086 processor with its advantages and disadvantages. 10
- (b) Explain interrupts of Intel 8086 microprocessor. 10
2. (a) Design an 8086 based system with following specification :— 10
  - (i) 8086 working at 8MHz
  - (ii) 32 kbytes EPROM using 16kB devices
  - (iii) 64 kbytes RAM using 32kB devices

Draw the complete schematic of the design indicating address map.
- (b) Explain the following Intel 8086 assembly language instructions giving example. 10
 

(1) TEST      (2) NOP      (3) STOS      (4) DAA      (5) SAR.
3. (a) Explain the operating modes of 8255 PPI including the handshaking operation. 10
- (b) Explain the operating modes of 8254 PIT. 10
4. (a) Explain the modes of operation of DMA controller. 10
- (b) What do you understand by bus arbitration ? Explain the different bus arbitration techniques with diagram. 10
5. (a) Explain the 8288 bus controller block diagram. Explain its use. 10
- (b) Explain the operation of three 8259 PIC in cascaded mode. 10
6. (a) Explain with neat diagram memory read and write machine cycle in maximum mode. 10
- (b) Explain addressing modes of 8085 microprocessor with example. 10
7. Write a short notes on (any **four**) :— 20
  - (a) RS-232 Serial Interface Standard
  - (b) 8284 clock generator
  - (c) Fixed port and Variable port addressing
  - (d) Generation of Reset Signal in 8086 based system
  - (e) String Instructions.

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